DETAILED ACTION

- Applicant's Amendment filed 1/26/2011 is acknowledged.

- Claims 1, 9, and 16 have been amended.

- Claims 1, 2, 6-9, and 11-16 are pending.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 2, 6-9, 11, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Pub. No. US

2003/0231206 A1 ("Armstrong").

Regarding claims 1, 9, and 16,

AAPA discloses initiating a PPPoE discovery stage to establish a PPP session

(see Applicant's specification, pgs. 6-7, para. 1027, *PPPoE is a protocol* <u>*typically used*</u>

<u>*by DSL access providers*</u> *to manage Internet protocols (IP) addresses and to*

authenticate users. <u>*PPPoE*</u> *provides for a point-to-point* <u>*connection to be established*</u>

over a logical connection between two unique MAC-address on an Ethernet network).

AAPA further discloses inquiring, from a remote location, a status of an upper-

layer communication indicator indicating a point-to-point protocol (PPP) over Ethernet

(PPPoE) communication status, wherein the status is observable by a visual inspection of the upper-layer communication indicator by an end-user (see Applicant's specification, pg. 9, para. 1035, *To trouble-shoot a DSL connection...in **prior art** systems, <u>higher-level communications</u> are often terminated internally to the transceiver, without indicating to the end-user if the communications were successful or not. In such systems, to determine <u>communication status</u> may require opening a web browser on a connect computer, logging in to the transceiver, and **viewing information on communication status, for example, PPPoE authentication, via a graphical user interface (GUI).** These extra steps require end-user involvement and increase troubleshooting costs* – **Note** that in other words, the service technician would have to <u>remotely</u> ask for assistance from the end-user in determining communication status of PPPoE (an upper-layer communication) and relay the information to the service technician).

AAPA still further discloses entering the status into data storage (see Applicant's specification, pg. 9, para. 1035, *end-user involvement and increase troubleshooting costs,* also see pg. 1, para. 1002). **Note** that the step of entering the status into data storage would coincide with the technical support personnel inputting the communication status relayed to by the end-user into his service terminal/computer in order to determine the next step in the troubleshooting. The inputted status information would reside in temporary and/or permanent data storage of the computer (claim 1 - *data storage;* **claim 16** – *data storage coupled to the remote service terminal*).

AAPA still further discloses performing a first set of actions in response to determining that the upper-layer communication indicator is on, indicating that the PPP session has been established, the first set of actions including troubleshooting actions (see Applicant's specification, **pg. 9, para. 1035**, _to determine_ _communication status_ _may require opening a web browser on a connect computer, logging in to the_ _transceiver, and_ _viewing information on communication status, for example, PPPoE_ _authentication_, _via a graphical user interface (GUI)_; **pg. 1, para. 1004**, _Even if all_ _protocols are_ _properly configured_ _and_ _communication is occurring_, _a particular DSL_ _implementation may not function_; **pg. 2, para. 1005**, _The access provider is often_ _responsible to maintain transceivers and client software._ _When problems arise,_ _trouble_ _shooting_ _typically involves the access provider sending a technician to a customer_ _premise_). **Note** that in other words even if the communication indicator is on viewable on the GUI, indicating that the PPP session is established, a particular DSL implementation may not function and a technician may still need to be sent out to the customer premise to perform troubleshooting (claimed _the first set of actions including_ _troubleshooting actions)_

AAPA still further discloses performing a second set of actions in response to determining that the upper-layer communication indicator is off, indicating that a PPP session has not been established, the second set of actions including corrective actions (see Applicant's specification, **pg. 9, para. 1035**, _to determine communication status_ _may require opening a web browser on a connect computer, logging in to the_ _transceiver, and_ _viewing information on communication status, for example, PPPoE_

*authentication, via a graphical user interface (GUI); **pg. 2, para. 1005**, The access provider is often responsible to maintain transceivers and client software. When problems arise, trouble shooting typically involves the access provider sending a technician to a customer premise).* **Note** that in other words a determination is made whether the indication is off viewable via GUI, indicating that a PPP session has not been established, which would indicate a problem. And when problems arise, typically a technician is sent to the customer premise, wherein the act of sending the technician is mapped to claimed "second set of actions including corrective actions."

For **claim 9 only**, AAPA still further discloses a connection port (see Applicant's specification, pg. 1, para. 1003, *DSL line connection*) configured to communicate data signals from a computer positioned at the local location to a remotely located provider device (see Applicant's specification, pg. 1, para. 1004, *that DSL implementation is complex due to multiple protocols used in the transfer of packets between end-user computer and a source or destination site*). **Note** that it is inherent that a computer has the claimed port. **Note further** that to "transfer packets between end-user computer and a source or destination site," the data must travel to or through some type of service provider device as claimed.

For **claim 16 only**, AAPA still further discloses detecting a digital subscriber line (DSL) related troubleshooting event at a remote service terminal that supports an end-user computer having a DSL connection at a local site (see Applicant's specification, pg. 1, para. 1002, *Determining the cause of technical problems in consumer digital subscriber line (DSL) service has been a challenging obstacle in DSL deployments;* pg.

1, para. 1004, _end-user computer;_ pg. 9, para. 1035, _To trouble-shoot a DSL_

connection...in **prior art** _systems…In such systems, to determine communication status_

may require opening a web browser on a connect computer, logging in to the

transceiver, and viewing information on communication status, for example, PPPoE

authentication, via a graphical user interface (GUI). These extra steps require end-user

involvement). **Note** that as described above, to trouble-shoot a DSL connection, the

end-user must call to relay the DSL problem to the tech support representative at

his/her work station (claimed _detecting a digital subscriber line (DSL) related_

troubleshooting event at a remote service terminal), wherein the tech support

representative receiving the call itself is mapped to claimed _detecting._

AAPA does not disclose that the upper-layer communication indicator indicating

a PPPoE communication status is displayed at a modem (claim 1) or a first status

indicator of a transceiver (claim 9) or a visual upper-layer communication indicator

displayed at a CPE device (claim 16).

Armstrong shows at the bottom of fig. 6 the phrase "When the PPPoE light on

your Modem is solid green, your connection is established" (claim 1- _upper-layer_

communication indicator indicating a PPPoE communication status is displayed at a

modem; claim 9 - _first status indicator of a transceiver;_ claim 16 - _a visual upper-layer_

communication indicator displayed at a CPE device).

It would have been _prima facie_ obvious to one of ordinary skill in the art at the

time of the invention was made to modify the PPPoE communication status indication

method of AAPA (see applicant's specification at pg. 1, para. 1004, pg. 2, para. 1005,

and pg. 9, para. 1035) to display the status indication on a modem as taught by

Armstrong (fig. 6, "PPPoE light on your Modem").   One skilled in the art would have

been motivated to make the combination to troubleshoot Internet service using an easily

viewable light (see Armstrong, Abstract and fig. 6, "PPPoE light on your modem").

    Regarding claim 2,

    AAPA discloses a service technician from the remote location requesting the

end-user to provide the status (see Applicant's specification, pg. 9, para. 1035, *To*

*trouble-shoot a DSL connection...in **prior art** systems, higher-level communications are*

often terminated internally to the transceiver, without indicating to the end-user if the

communications were successful or not. In such systems, to determine communication

status may require opening a web browser on a connect computer, logging in to the

*transceiver, and **viewing information on communication status, for example,***

***PPPoE authentication, via a graphical user interface (GUI)**. These extra steps*

require end-user involvement and increase troubleshooting costs – **Note** that in other

words, the service technician would have to remotely ask the end-user in determining

status as claimed.

    AAPA does not disclose that the status is of a light emitting diode (LED) on a

Digital Subscriber Loop (DSL) modem.

    Armstrong shows in fig. 9 a picture of a ADSL modem 106 that has LEDs 916

(paras. 62 and 63).

    It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the determining of PPPoE communication

status as taught by AAPA (see applicant's specification at pg. 1, para. 1004, pg. 2, para.

1005, and pg. 9, para. 1035) to display the status indication on a DSL modem LED as

taught by Armstrong (paras. 62 and 63). One skilled in the art would have been

motivated to make the combination to troubleshoot Internet service using an easily

viewable LED (see Armstrong, Abstract and fig. 9, LEDs 916).

        Regarding claim 6,

        AAPA discloses service technician advising the end-user to perform corrective

action to a local configuration (see Applicant's specification, pg. 1, para. 1004, *a*

particular DSL implementation may not function properly due to authentication

problems, for example, incorrect user identifiers or passwords). **Note** that in other

words, the above excerpt suggests that the end-user would be reminded by the tech

support representative re-enter user identifiers and/or passwords (claimed *service*

technician advising the end-user to perform corrective action to a local configuration

corrective action)

        Regarding claim 7,

        AAPA discloses a service technician performing a corrective action at the remote

location (see Applicant's specification, pg. 2, para. 1005, *The access provider is often*

responsible to maintain transceivers and client software. <u>*When problems arise*</u>*, trouble*

shooting typically involves the access provider <u>*sending a technician*</u> *to a customer*

premise). **Note** the phrase "when problems arise, typically a technician is sent to the customer premise," wherein the <u>act of sending the technician</u> is mapped to claimed "service technician performing a corrective action at the remote location."

Regarding claim 8,

AAPA discloses sending a service technician to a location of the end-user to perform a set of troubleshooting actions (see Applicant's specification, pg. 2, para. 1005, *The access provider is often responsible to maintain transceivers and client software. When problems arise, trouble shooting typically involves the access provider sending a technician to a customer premise*). **Note** a technician may need to be sent out to the customer premise <u>to perform troubleshooting</u>, wherein the technician being sent out to perform the troubleshooting at the customer premise is mapped to the claimed "sending a service technician to a location of the end-user to perform a set of troubleshooting actions."

Regarding claim 11,

AAPA does not explicitly disclose that the service provider device is a DSLAM.

Armstrong shows in fig. 2, DSLAM 114B in service provider's access network 110 (para. 35).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the service provider device that communicate with a local location computer as taught by AAPA (see applicant's specification at pg. 1,

paras. 1003-1004) to be a DSLAM as taught by Armstrong (fig. 2, 114B and para. 35).

One skilled in the art would have been motivated to make the combination since it is

well-known in the art that DSLAM is a service provider device that communicates with

end-user DSL modems attached to computers.

3.   Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicant's Admitted Prior Art (AAPA) in view of Armstrong and further in view of Patent

No. US 7,092,375 B2 ("Pitsoulakis").

        Regarding claims 12-15,

        AAPA and Armstrong do not disclose an OSI layer 2 visual indicator indicating

the connection status between the computer and the remotely located service provider

device (claim 12), such as wide area network status indicator (claim 13) or an OSI layer

1 status indicator (claim 14), such as power indicator (claim 15).

        Pitsoulakis shows in fig. 2 power LED 206 (claims 14 and 15) and DSL LED 204

(claims 12 and 13)(col. 4, lines 46-67, *The power LED 204 indicates the application of*

power to the access device 200…. The DSL LED 206 indicates the DSL connection

and the synchronization with asymmetric DSL (ADSL) transceiver unit (ATU). When

DSL is connected and is synchronized with ATU-C (ATU central), the DSL LED 206

shows green light). **Note** that DSL LED 206 is a OSI layer 2 (network layer) mapped to

claimed wide area network status indicator.

        It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the low-level connection status LEDs of

AAPA-Armstrong (see Applicant's specification, pg. 2, para. 1005) to be power indicator

LED and DSL LED as taught by Pitsoulakis (col. 4, lines 46-67). One skilled in the art

would have been motivated to make the combination to troubleshoot Internet service

using easily viewable LEDs (see Armstrong, Abstract and fig. 9, LEDs 916).

Response to Arguments

4.   Applicant's arguments filed 1/26/2011 have been fully considered but they are
not persuasive.

-       The applicant argues on pgs. 6-7 that AAPA does not disclose a PPPoE

        discovery stage to establish a PPP session as recited in independent claims

        1, 9, and 16.

-       As detailed in the revised rejection reflecting the amended independent

        claims, the AAPA discloses that PPPoE is a protocol <u>typically used by DSL

        access providers</u> to manage Internet protocols (IP) addresses and to

        authenticate users, in which the <u>PPPoE</u> provides for a point-to-point

        <u>connection to be established</u> (see Applicant's specification, pgs. 6-7, para.

        1027).

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SOL whose telephone number is (571)272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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